



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Specifications and Advertisement for Bids for Purchase of Fire Apparatus
(1,500 gallon per minute engine--Fire Department)

MEETING DATE: May 20, 1992

PREPARED BY: Fire Chief

RECOMMENDED ACTION:

That the **City Council** approve the **specifications** and authorize advertisement for bids for the purchase of a Fire Apparatus.

BACKGROUND INFORMATION:

\$40,000 was approved in the 91-92 Budget to acquire bids for ~~the lease/purchase~~ of a new Fire Apparatus with the stipulation that said funds would not be disbursed until the 92-93 budget year. This ~~bid~~ proposal is now timely as ~~delivery~~ times are approximately 8 to 12 months which would make the first payment due in the 3rd quarter of the 92-93 budget year. A Fire Apparatus committee was formed from line and management personnel to assemble the specifications for this apparatus. We have prepared a **specification** we believe will come in under the total authorized budget of \$200,000.00 and still be a quality Fire Apparatus that will meet our needs.

FUNDING:

Estimated First year lease/ purchase costs of \$40,000 is included in the Fire Department's 1992-93 fiscal year budget.

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Fire Chief

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APPROVED:

THOMAS A. PETERSON
City Manager





LODI FIRE DEPARTMENT

FIRE APPARATUS SPECIFICATIONS

1500 GPM PUMPER

LODI FIRE DEPARTMENT FIRE APPARATUS SPECIFICATIONS 1500 GPM PUMPER

GENERAL SCOPE OF THE BID

The Lodi Fire Department is seeking bids from qualified contractors to manufacture and deliver one (1) 1500 GPM Class "A" custom fire apparatus.

Attached is an example of the type of unit and the typical components desired on the unit. This example is taken from national manufacturer's whose equipment is acceptable to the District. It is the intent of the proposal that the contractor provide the best overall apparatus meeting the needs of the Lodi Fire Department at the best price.

The Department is aware that different manufacturers use different processes, materials and components when building apparatus. Therefore, it is the responsibility of the manufacturer to provide the specifications and justification for other than the listed specifications attached with each bid.

Each proposal shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract must conform. These specifications shall indicate size, type, model, and make of all components, parts and equipment. NO EXCEPTIONS.

The successful contractor will not be allowed to take advantage of any error or omission in the specifications or in the "Contractor's Specifications". Full instructions will always be given when such error or omission is discovered and the Lodi Fire Department representative is notified concerning such error or omission.

GENERAL CONSTRUCTION

The apparatus, at time of delivery, must fully comply with all Federal Motor Vehicle Standards, State of California Motor Vehicle regulations in effect at time of manufacture, and NFPA Standards #1901 and other related standards of the National Fire Protection Association covering Fire Apparatus.

The construction shall be substantial and safety factors considered to carry loads as specified and to meet road and speed conditions as set forth under road requirements. Welding shall not be employed in the assembly of the apparatus in any manner that will prevent the ready removal of any component part for servicing or repair.

SPECIFICATIONS PROPOSAL REQUIREMENTS

Each manufacturer must indicate in a "Yes/No" column if their proposal complies on each item specified. Exceptions will be allowed, unless NO EXCEPTIONS is stated, if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. We must be able to study, evaluate and compare. Proposals must be submitted in the same sequence as specifications for ease of checking compliance. Exceptions will be referenced to the item number and a drawing, photograph, or technical information about the exception will be included. NO EXCEPTIONS.
PROPOSAL TAKING TOTAL EXCEPTIONS TO SPECIFICATIONS WILL NOT BE ACCEPTED.

INFORMATION REQUIRED

The manufacturer shall supply, at time of delivery, complete operation and maintenance manuals covering the completed apparatus as delivered. A permanent plate **must** be mounted in the **driver's** compartment specifying the quantity and type of fluids required including engine oil, water, transmission fluid, pump transmission, lubrication fluid, pump primer fluid, drive axle lubrication fluid.

The following manuals and charts shall be provided. VEHICLE WILL NOT BE ACCEPTED WITHOUT THESE MANUALS.

- One (1) Parts Manual
- Two (2) **Service** Manuals
- Two (2) operators Manuals
- Two (2) Detailed wiring diagrams
- Two (2) Detailed Lubrication Charts

PRECONSTRUCTION CONFERENCE

The purchaser and manufacturer shall participate in a **preconstruction conference** to review and **discuss** construction details prior to the commencement of construction. The conference shall be conducted at Lodi Fire Department facilities.

BLUE PRINTS

A **blue print** must be **approved** by the fire department prior to any metal **being** sheared or **commencement** of apparatus construction. The fire department, the **manufacturer's** representative and the apparatus manufacturer shall each have a copy of this blue print. This blue print **shall** then become a part of the total contract. Drawing must show but not be limited to, such **items** as the chassis being utilized, lights, horns, sirens, **all** compartment **locations** and dimensions, special discharges, etc. Blue print is to be a visual interpretation of the unit as **it** is to be supplied.

DELIVERY METHOD

The apparatus shall be **delivered** F.O.B. Lodi, CA. Acceptance testing of the **apparatus** shall be conducted within 24 hours after receipt of the completed apparatus. **Manufacturer's** representative shall provide a minimum of one (1) day training on the operation of the apparatus.

PERFORMANCE TESTS AND REQUIREMENTS

1. A road test will be conducted with the apparatus fully loaded and a continuous run of fifty (50) miles or more will be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus.
2. The service brakes shall be capable of stopping a fully loaded vehicle in 30 feet at 20 MPH on level concrete highway.
3. The apparatus shall be tested and approved in accordance with Underwriters Laboratories Incorporated specifications and NFPA specifications and witness by third party observer. A copy of all test shall accompany the apparatus.

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The contractor shall furnish copies of the pump manufactures's record of **pumper construction** details when delivered.

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements of these **specifications on the first** Mats. second trials **may** be made at the option of the manufacturer within thirty (30) days of the date of the first trials: such trials shall be final and conclusive and failure **to comply** with these requirements **shall** be cause for rejection. Failure to comply with changes **as** the purchaser may consider necessary within thirty (30) days **after notice** is given to the manufacturer of such changes shall also **be** cause of rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the fire department during the above specified period with the permission of the manufacturer shall **not** constitute acceptance.

WARRANTY

Manufacturer will warrant **new** apparatus of its **own** manufacture against **defective workmanship** and materials for a **period** of one (1) year from date of **acceptance**. Extended warranty's on Individual **components** will be as **listed** in the specifications.

Under this warranty, the **manufacturer's** liability is limited to furnishing **Purchaser**, without cost, parts and labor required to replace defective material or **workmanship** when there is **no indication** of misuse, neglect, improper maintenance, accident or **overloading** of apparatus. Defects will **be** reported to the seller in writing by the Purchaser within the warranty **period**.

LEASE/PURCHASE OPTIONS

It is the intent of the Lodi Fire Department to Lease purchase this **apparatus**. Lease purchase options are to be included with the bid process.

SPECIFICATIONS

A - CHASSIS:

A-1. Chassis shall be of **Eurospace** design either Spartan Tilt Cab (**SFD**) Diamond with

Dual needle Air Pressure Gauge
Red Dual Low Air Pressure Warning Lights
Dual Low Air pressure Audible indicator
Red Low oil Pressure Warning light with audible indicator.
Transmission Temperature Gauge with warning light and alarm
Voltmeter

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Amp Meter
Fuel Gauge
Red High Water Temperature warning light with audible indicator.
Two green directional signal indicator lights
Blue high beam headlight indicator light
Speedometer
Tachometer
Air Restriction Indicator
Ignition switch
Push type engine starter button
Engine Shutdown switch
Parking Brake Control Valve
Parking brake actuated red warning light.
Pump/Road transmission shift valve with indicator light.
Open compartment indicator light.(rotating 4)
Hourmeter
Emergency Brake release valve.
Indicator light for rear flood lights.
Air Conditioner controls
Heater/defroster controls
Manual throttle control
4 way flasher control
Provision for sufficient switches in one panel with master disconnect to control all warning devices.
Headlight switch to be independent of Master control but be overridden by master control.

B- FRAME:

- B-1. Side rail shall be Channel type heat treated steel. 10 1/4" X 3" X 3/8". Yield strength to be 80,000 PSI and RBM no less than 1,280,000 inch lbs. with lifetime warranty.
- B-2. There shall be 7 gusseted Cross members. Assembly shall be by bolted design using grade 8 Flanged bolts and Flanged lock nuts.
- B-3. Two heavy duty painted bottom mounted tow hooks must be attached to the chassis frame under the front bumper.
- B-4. A single rear tow eye of sufficient rating to pull the unit shall be provided bolted to the sub frame with grade 8 bolts and a minimum eye opening of 2" x 3'.

C- AXLES:

- C-1. Front Axle shall be Rockwell FL series 16,000 lb. capacity. Super duty 3 1/4" diameter double acting hydraulic shock absorbers must be installed.
- C-2. Rear Axle shall be Rockwell Model RS 24160 single reduction type with 24,000 lb. capacity, gear ration to be engineered to allow an approximate top speed of 60 mph.

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C-3. Axle bearings. front and rear, to be oil lubricated.

C-4. The Rockwell International 5 year axle warranty will be provided with the apparatus.

D - SUSPENSION:

D-1. Front suspension springs shall be compatible with the axle rating and loads to be carried.

D-2. Rear Suspension springs shall be compatible with the axle rating and loads to be carried.

E -BRAKES

E-1. Brake system must be full air. dual system. with quick build up capability. Compressor shall be 13.2 CFM capacity and reservoir capacity shall be no less than 4800 cu. inches.

E-2. Air lines to be reinforced nylon tubing. color coded and wrapped in loom.

E-3. The service brake systems shall be Rockwell-Standard S Cam type with manual slack adjusters. Front Brakes shall be 16 1/2 X 6". Rear Brakes shall be 16 1/2 X 7".

E-4. The parking brake must be Maxi Spring Type on rear axle with actuator control mounted on cab dash with warning light.

E-5. Braking system must comply with State and Federal Dot Requirements. No exceptions

E-6. Bendix A 5 4 air dryer shall be provided with heated moisture ejector and manual drains on all tanks.

E-7. Anti Lock Braking system shall be provided on all four (4) wheels. No exceptions

F - ENGINE

F-1. Shall be Cummins Diesel Model 6CTA 8.3. Engine shall deliver 300 H.P. @ 2200 RPM and 820 lbs of torque @ 1300 RPM and shall be equipped with exhaust Brake.

F-2. An engine block heater will be provided with 110 VAC 20 amp Kussmaul Auto-eject system placed on the left side of pump plate area.

F-3. Access shall be provided to the engine for checking oil and water levels without raising the tilt cab.

G - COOLING SYSTEM

G-1. Cooling system must be of sufficient size to keep engine properly cooled under all conditions of road and pumping operations.

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- G-2. All hoses shall be ~~silicone~~ with compatible ~~fittings~~.
- G3. Drain ~~cocks~~ will be furnished at the lowest point in the radiator ~~system~~.
- G4. Water filter will be provided in the system
- G5. The radiator ~~will~~ have ~~removable~~ upper and lower tanks with full ~~de~~-aeration system.
- G6. A transmission oil cooler shall be provided compatible for the ~~World~~ Transmission.
- G7. After delivery in California the system will be filled with water and RL25 Water treatment additive. No Anti- Freeze

H - EXHAUST SYSTEM

- H-1. Exhaust system will be installed under the frame with outlet to the ~~right side~~ terminating with a 45 degree turndown chrome outlet. ahead of the rear wheels.
- H-2. Muffler shall be aluminized heavy duty type.
- H-3. Material use in system must be minimum .065 wall ~~thickness~~ ~~aluminized~~ steel tubing and stainless steel flex.
- H-4. Heat shields will be installed where necessary.

I - AIR CLEANER

- I-1. Shall be ~~Donaldson~~ dry type ~~or~~ equal and be easily accessible for service.
- I-2. Air restriction indicators shall be provided in the ~~cab~~ dash and on the pump panel.

J - DRIVE TRAIN

- J-1. Drive lines shall be heavy duty metal tube and be equipped with ~~spicer~~ 1700 series universal joints. The shafts will be dynamically balanced ~~before installation~~ and have ~~glide coat splined~~ slip joints.
- J-2. Transmission will be a 6 speed Allison WORLD Transmission MD3060P with Pump lockup in direct drive gear. The lockup will engage with the pump shift control located inside the cab.
- J-3. Transmission will have a dipstick and fill tube easily accessible through an access door for checking and adding transmission fluid without having to raise the Cab.
- J-4. Transmission will have auxiliary cooling to the radiator unit.

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K • STEERING

K-1. Ross TAS-85 integral heavy duty power steering will be provided with a vickers V20F hydraulic pump with integral pressure and flow Control. The steering wheel will be padded and 20" in diameter.

K-2. The steering column will be a tilt and telescopic type

L • TIRES & WHEELS

L-1. Front and Rear Tires will be Steel belted Radial 11R22.50 16 ply highway tread Goodyear or equal.

L-2. Wheels will be 22.50" X 8.25 10 stud 11.25 inc bolt circle.

L-3. Wheels will be finished painted the same color as the vehicle.

M • ELECTRICAL SYSTEM

N - LIGHTING

N-1. Exterior Lighting will meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards, California Department of Vehicles Standards, and National Fire Protection Association requirements.

N-2. Head Lights shall be halogen, rectangular quad type mounted in a chromed housing.

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- N-3. Turning signal lamps will be rectangle amber housed in chromed bezels along with red halogen warning lights. These will be mounted above the headlights
- N-4. Lightbar shall be CODE 3.84' long bar. clear Covers with red lenses. Traffic preemptor to be mounted in the Center area of the light bar, and ends to have alley lights.
- N-5. Rear tail/stop/directional lights are arrow type housed in a chromed steel casing, flush mounted at the rear of the apparatus.
- N-6. Clearance lights will be mounted along the top of the cab and on the front of the running board rearmost sides of the tailboard. and three across the rear below the hose bed.
- N-7. Two step lights will be provided one on each compartment face below the rear cab doors.
- N-8. Work Lights will be installed in each horizontal high top hinged compartment door. These lights to be 4 inches in diameter actuated by door jamb switch.
- N-9. Compartment Lighting , a 4 inch diameter light located at the top of each enclosed compartments will be provided actuated by a door jamb switch.
- N-10. A 4 red flashing or rotating 'OPEN DOOR' indicator light will be provided inside the cab in clear view of the driver.
- N-11. Perimeter Scene Lights shall be mounted under the front bumper, under the rear step. and one on each side under the running boards. These shall be 4 inches in diameter and switched with the pump panel lighting.
- N-12. Pump Compartment Light and switch will be provided inside the pump compartment accessible through the side pump panels.
- N-13. Two work lights will be mounted at the rear of the hosebed to be actuated from inside the cab. These will be halogen Unity AG flood light type.
- N-14. Perlux Model 600RM fog lamps will be recessed into the front bumper, switched and indicator light installed in the switch panel.
- N-15. Two Unity 225 type spotlights. one each side at front of cab will be provided Spots to be 160,000 candle power halogen bulbs.
- N-16. Intersection strobe lights will be located on the front outside corners of the extended front bumper and over the rear wheel well areas.
- N-17. Headlight Flasher unit will be installed and switched with indicator lights in the cab. The lights will automatically cancel upon switching to high beam.
- N-18. Two 120 V 500 watt telescoping pole quartz flood lights. Each light to extend a min of 40" and allow for 360 degree operation of the light. Locking casting will be tightened with a hand wheel. Quality to be Churchville or better.
- N-19. Two alternating flashing red lights shall be provided on the Cab front below the

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windshield level in accordance with NFPA Standards.

N-20. Two alternating lights shall be provided on the rear of apparatus left side Amber, right side red as per NFPA Standards.

N-21. Two chromed framed work lights will be mounted on the rear of the cab facing the pump operators position .

N-22. Two lights shall be provided, one on each inside of the beaver tail, to light up the rear step area.

O - PUMP

O-1. The pump will be a Single Stage **1500** GPM at **150** psi . The pump will be either a Waterous CSUY **1500** or a Hale OSMG -**150**. No Exceptions. The pump shall be Cast. Manufactured and Tested at the Pump Manufacturers factory and shall meet all NFPA Standards.

O-2. The priming pump shall be a positive displacement vane type electrically driven and conform to standards outlined in NFPA pamphlet no **1901**. It shall be of the Pump manufactures design. One switch shall operate the priming valve and the priming motor and be located on the pump panel. A priming oil reservoir tank of minimum capacity of one gallon shall be installed. The tank shall be properly vented and have a dip stick and access door for ease of checking and filling.

O-3. Pump Manufacturers relief valve will be installed on the suction side of the pump preset to 55 PSIG. The outlet will terminate below the left side running board visible to the pump operator.

O-4. An automatic pressure control relief valve shall be provided by the manufacturer of the fire pump. Relief valve shall be equipped with a hand wheel control and indicator pilot light. The relief valve shall be capable of handling the full rated capacity of the pump with a surge not to exceed 20 psi.

O-5. The pump will be tested, approved. and certified by an independent third party testing agency at the manufacturer's expense, Lodi Fire Department to observe test.

O-6. A heat exchanger manufactured by the Pump Manufacturer shall be provided and installed within 10 inches of the radiator inlet. The control valve shall be located at the pump operators position.

O-7. Thermal relief valve system shall be provided to recirculate pump water during periods of low water movement.

P . VALVE AND PLUMBING

P-1. Discharge valves shall be 1 1/4 turn full flow valves Manufactured by Akron Brass. 2 1/2" or larger valves shall have individual 3/4 inch drain valves located at each outlet and plumbed to dump below the running boards.

P-2. Total of 4 - 2 1/2" outlets with minimum of 2 1/2" Plumbity. 2 located at each side of the rear of vehicle below the hose bed and spaced in to provide for fittings and wye adapters. with 30 degree drop snoots. 2 located one on each side of

pump panels with 30 degree drop snoots. Outlets ~~to be~~ NST Male with chrome plated caps and beaded chain attached to the panels. Drop snoots ~~where possible~~ shall be integral part of the valve.

P-3. Total of 2 - 5" Storz outlets with 30 degree drop snoot. Storz coupling to be compatible with our Angus 5 inch hose and Storz fittings, located on each side of the pump panels. Plumbing to be 3" Valve to be 3'. Chained caps to be provided attached to the outlets.

P-4. 3" and larger valves will be equipped with slow-clos devices as per NFPA standards.

P-5. Valves to the two Speed lay compartments shall be 2' 1/4 turn. full flow ball valves. operated from the pump panel. 2" piping and 1 1/2" NST Male outlets attached to chiksan swivels

P-6. There will be a 1.5' gated outlet with swivel elbow piped to the driver's side corner of the front bumper extensor. Plumbing will be minimum of 2" with a 1/4 turn full flow valve controlled at the pump operators panel.

P-7. There will be 1.5" piping to the center rear compartment with proper fittings connected to a single Hannay reel assembly of 200' of 1" line, valved at the reel. Hannay reel to be provided by the manufacturer.

P-8. There will be 3" piping to the Deluge Riser above the pump area which will be centrally located close to the front of the storage well in such a manner that monitor can be operated by the Pump Operator. Lodi Fire Department will supply the Monitor. Valve to be 3" - 1/4 turn full flow slow close ball valve. Mounting Flange to be 4 bolt pattern to match the Akron 3426 Deluge gun supplied by Lodi Fire Department.

P-9. Electric Actuated 6" butterfly valve shall be installed on the driver's side of the pump panel intake. The valve shall be installed behind the pump panel. The intake shall have a 5' Storz fitting with 30 degree drop. The intake on the passenger side of the pump panel will be 6" NST male with domed chromed pressure cap.

P-10 Tank to Pump plumbing will be a minimum of 3' with 1/4 turn full flow valve. A check valve will be provided in the tank to pump line to prevent the possibility of back filling the tank.

P-11. Tank refill line of heavy duty aeroquip hose with a 1.5" 1/4 turn full flow valve shall be provided.

Q - Pump Operators Panel

Q-1. Pump Operators panel shall be located behind the Cab and top mounted. The gauges and controls mounted on the operator panel shall

diameter.
1.5", 2.5" and 5"

- 1 - priming pump control. Pushbutton. electric.
- 1 - RPM ~~1/10th~~ speed outlet counter.
- 1 - Master pump Drain.
- 1 - Manual Throttle ~~control~~

Q-4. A Mike and speaker ~~compartment~~ will be ~~furnished~~ adjacent to the pump operators

R - TANK

- R-1.** Apparatus shall ~~come~~ equipped with 500 gallon waler tank.
- R-2.** Tank shall be ~~fabricated entirely~~ of Ten (10) gauge steel.
- R-3.** Tank shall be hot dip galvanized aher construction.
- R-4.** All tank welds shalt ~~be~~ welded inside and outside.
- R-5.** Baffles shall be ~~installed~~ both length wise and cross wise ~~with~~ stainless steel self locking bolts.
- R-6.** Tank covers shall allow 100% access lo the tank. Cover shall ~~be~~ bolted with stainless steel self locking bolts with 2" gasket

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between cover and tank. Bolts to be outside the tank through an outside flange.

R-7. The tank shall be a T design to allow for 24 inch deep lower side compartments.

R-8. The tank shall have a combination Surge Tower, manual fill, and overflow located at the left front of the hose bed. Manual tank fill to be at least 6 inches in diameter with removable screen. Over flow must be 4 inches in diameter and dump behind the rear axles. (no water to dump on axle housing).

R-9. Tank shall be unconditionally guaranteed to the original owner for the life of the apparatus or 25 years excluding major vehicle accidents affecting the tank area.

R-10. Tank will be securely mounted to chassis frame utilizing 3 inch steel channel supports and spring loaded bolts to protect tank from road stress.

R-11. Tank shall be equipped with a deep suction sump fitted with a 3 inch drain plug. A minimum 5' shall be maintained between the bottom of the sump and the outlet to the pump.

R-12. Poly Tanks meeting design specifications will be accepted.

S - APPARATUS BODY CONSTRUCTION

S-1. Body must be constructed in accordance with NFPA Pamphlet 1901 recommendations. All Welds and Metal work will be free of sharp edges, objects or corners.

S-2. The sub frame shall be high tensile strength tubular steel 4" X 3" with .190 wall. and structural steel channel 4" wide, flange width 1.721 and a Web thickness of .321". Steel tubing and channel shall be welded together forming a strong sub frame for the body. This sub frame shall be bolted to the chassis frame utilizing 1/2" grade 8 bolts not closer than 1.5" from the top or bottom frame flange.

S-3. The apparatus body and Separate pump console must be constructed of 12 gauge Mill Finished Galvanized steel or equal strength aluminum. No exceptions.

S-4. All body corners must have a minimum 1.5 inch radius for added strength and modern appearance.

S-5. All runningboards. Tailboards. shall be 3/16 inch aluminum diamond plate separated with 3/8" spooled spacers between component parts. They shall be properly supported by heavy duty brackets bolted to the chassis frame.

- S-6. Beavertail shall be spaced with $\frac{3}{8}$ " spools between component parts.
- S-7. Body must be removable from chassis without cutting or bending. The major body component must consist of left and right body sides, rear facing body compartment and beavertails, pump console and forward through compartment.
- S-8. Front Bumper shall be 12" deep 2 rib wrap around type extending 18 inches from the front of cab and be covered with $\frac{3}{16}$ " aluminum diamond plate. A recessed covered tray will be provided for 100' of pre-connected 1.5" hose.
- S-9. Stainless Steel Fender liners will be installed in all wheel wells.
- S-10. Stainless Steel Fender crown will be provided around front and rear wheel openings.
- S-11. A rear intermediate step will be provided the width of the hose bed 10' deep to facilitate access to the hose bed.
- S-12. A corner step on each inside beavertail shall be provided for access to hose bed step.

T - COMPARTMENTS

- T-1. All compartments must be of sweep out design, the floor higher than the compartment lip.
- T-2. Each compartment must be provided with a minimum of two machine stamped lowers in rear wall.
- T-3. All Equipment doors shall have full length piano hinge of $\frac{3}{16}$ " diameter hinge pins.
- T-4. All doors shall be double panel lap design with fully removable inner liners $\frac{1}{8}$ " thick of natural finish circular brushed aluminum.
- T-5. All doors latches will be Hansen Model 459 with stainless steel offset D ring handles model 79L, or equivalent.
- T-6. Horizontal Hinged doors shall be provided with Henro Holder Springs. Gas Cylinder type holders not acceptable.
- T-7. Vertical Hinged Doors will have Cleveland stainless steel double spring type holders.
- T-8. All compartment doors will be provided with continuous high quality weather stripping to prevent moisture and dust from entering compartments.

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T-9. Drip protection ~~will~~ be provided over all ~~door~~ openings by means of bright aluminum extrusion or formed aluminum treadplate.

T-10. Bright aluminum treadplate with 1 inch rolled edge shall be provided on the top of the compartments.

T-11. ~~Compartment~~ sizes as follows.

Left 8 Right Front • single door ~~29~~ wide x 30' high x 24' deep

Left ~~8~~ Right Rear • single door 29" wide x 30' high x 24' deep

Two left & right high side Compartments each single door 60" wide X 30" high x 12' deep.

Rear opening size to be determined at pre construction conference, to accommodate Hannay Hose reel of 200' of 1" line and will have horizontally hinged door. Opening shall have chrome rollers and guides on a roller assembly mounted in the rear door opening.

T-12. 4 " wheel well air ~~bottle~~ compartments with rubber floor matting. Cast, hinged, brushed finished, aluminum doors.

T-13. Top ~~horizontal~~ Hinged access door will be provided in each pump panel to permit pump service access.

T-14. All compartments shall have adjustable shelf brackets installed.

T-15. ~~Black~~ compartment ~~decking~~, petroleum distillate resistant, shall be installed in the compartment floors.

U - HANDRAILS

U-1. Handrails will be solid corrugated 1-1/4" diameter. Locations as follows

- One half length rail on each beavertail
- One horizontal rail above hose bed at rear of apparatus.
- 1- 20" handrail at each cab door entrance.
- One at each side of top mounted pump entry way.
- A hand rail above each side of pump panel

V - HOSE BED

V-1. Hose bed capacity will be a minimum of 650' of 5" hose, 1300' 2.5" hose, 200' of 1.5" hose.

V-2. Hose bed ventilating rack shall be Aluminum.

V-3. Hose bed cover to be 3/16 inch thick aluminum diamond plate, bright finish, hinged with 1/4" stainless steel piano type hinges. Front and rear ends to be broken down one inch for added strength, and must be reinforced and supported to allow a suitable walking surface. A hinged panel must be provided for access to the water tank fill lower with covers closed.

V-4 Three fully adjustable sliding track hose bed dividers of 1/4" reinforced

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aluminum, non painted. brushed finished. shall be provided.

V-5. The right side of the hose bed shall have a compartment designed to hold the required ladders. 14' roof. 24' extension. 10' attic, & Pike Pole Long Back board. Ladder trays shall be neoprene lined and have positive ladder locking device installed. Fire Department will furnish the 10' attic ladder.

V-6. Two speed lay hose beds will be provided under the pump pane/ area. These beds shall be capable of holding 200' of 1.75" hose and have aluminum ventilator racks. There will be openings in the front of the cabinet for access to the hose for loading. Stainless steel rollers, horizontally and vertical shall be installed on each end of the speed lay compartments.

V-7. One speed lay type compartment will be provided under the 1.75" speed lay compartments. This will be designed to hold 50' of 5" hose and have aluminum ventilator rack with front access.

V-8. One Jump line compartment in the front bumper capable of holding 100' of 1.5" hose with hinged compartment lid.

W - AUDIBLE WARNING DEVICES

W-1. Grover model 1501 air horn mounted behind front bumper and controlled by two switches in cab, one for engineer and captain.

W-2. Mechanical siren. Federal Model Q with Horn switch control and right side floor switch, brake switch in center of dash.

W-3. Electric back up alarm as specified by Cal Osha. NFPA Standards.

W-4. Tailboard to cab buzzer system with protected buttons on each beaver tail.

X - FUEL SYSTEM

X-1. Fuel tank to be minimum 50 gallons

X-2. Spin on primary fuel filter. water separator type to be provided.

X-3. Only stainless steel wire braided fuel hoses will be acceptable.

X-4. Filler neck compartment to have hinged door. raised front lip with drain hose behind panel to prevent overfill from spilling on outside of apparatus.

Y - MISCELLANEOUS

Y-1. A fresh air heater and defroster must be provided with a minimum output of 57,600 BTU 'S.

Y-2. A minimum 48,000 BTU air conditioner shall be provided. Location to be determined during pre construction conference

LFD Apparatus Specifications

- Y-3. ~~Black~~ Hard rubber mud flaps shall be provided on the rear of the cab front wheels & the rear body wheel wells.
- Y-4. Unit shall have 4' reflective white stripe. ~~3M #980-10 No Exceptions, in accordance with NFPA standards. '91 1' shall be cut into the tape on the rear of each side.~~
- Y-5. License Plate bracket and light shall be furnished mounted on ~~back of left~~ rear compartment.
- Y-6. ~~Spools~~ and rollers to be provided on the lower section of the ~~beaver~~ tail on each side.
- Y-7. Equipment to be supplied with the Apparatus is as follows:
- 1 - ~~24'~~ Extension Ladder
 - 1 - 14' Roof Ladder
 - 1 - 10' Pike pole
 - 1 - Hannay hose reel with 200' of 1 hose. Electric rewind with controls.

Z - PAINT

- ~~Z-1.~~ Paint to be acrylic urethane red with white cab top down to windows.
- ~~Z-2.~~ Entire unit, inside and out, to be painted before final assembly.
- ~~Z-3.~~ All surfaces to properly prepared to ensure a high quality, long lasting finish.
- ~~Z-4.~~ Stripping & Lettering as specified by Lodi Fire Department to include Gold leaf lines around compartments and cab and "City Of Lodi Fire Department" on Doors and Unit ID on Cab Sides.

Options:

1. 6 - Discharge gauges to be electric with open - close indicators lights and with immediate manual override capabilities
2. 1 - Tank to Pump control valve Electric with open - close indicators lights and with immediate manual override capabilities
3. Ceramic automatic adjusting pump seal
4. Hale TPM Relief Valve System

LFD Apparatus Specs

ITEM	COMPLIANCE	
	YES	NO
A. CHASSIS		
A-1	<input type="checkbox"/>	<input type="checkbox"/>
A-2	<input type="checkbox"/>	<input type="checkbox"/>
A-3	<input type="checkbox"/>	<input type="checkbox"/>
A-4	<input type="checkbox"/>	<input type="checkbox"/>
A-5	<input type="checkbox"/>	<input type="checkbox"/>
A-6	<input type="checkbox"/>	<input type="checkbox"/>
A-7	<input type="checkbox"/>	<input type="checkbox"/>
A-a	<input type="checkbox"/>	<input type="checkbox"/>
A-9	<input type="checkbox"/>	<input type="checkbox"/>
A-10	<input type="checkbox"/>	<input type="checkbox"/>
A-11	<input type="checkbox"/>	<input type="checkbox"/>
A-12	<input type="checkbox"/>	<input type="checkbox"/>
B. FRAME		
B-1	<input type="checkbox"/>	<input type="checkbox"/>
B-2	<input type="checkbox"/>	<input type="checkbox"/>
B-3	<input type="checkbox"/>	<input type="checkbox"/>
B-4	<input type="checkbox"/>	<input type="checkbox"/>
C. AXLES		
c-1	<input type="checkbox"/>	<input type="checkbox"/>
C-2	<input type="checkbox"/>	<input type="checkbox"/>
c-3	<input type="checkbox"/>	<input type="checkbox"/>
c-4	<input type="checkbox"/>	<input type="checkbox"/>
D. SUSPENSION		
D-1	<input type="checkbox"/>	<input type="checkbox"/>
D-2	<input type="checkbox"/>	<input type="checkbox"/>
E. BRAKES		
E-1	<input type="checkbox"/>	<input type="checkbox"/>
E-2	<input type="checkbox"/>	<input type="checkbox"/>
E-3	<input type="checkbox"/>	<input type="checkbox"/>
E-4	<input type="checkbox"/>	<input type="checkbox"/>
E-5	<input type="checkbox"/>	a
E-6	<input type="checkbox"/>	<input type="checkbox"/>
E-7	a	a

LFD Apparatus Specs

ITEM	COMPLIANCE	
	YES	NO
F. ENGINE		
F-1	<input type="checkbox"/>	<input type="checkbox"/>
F-2	<input type="checkbox"/>	<input type="checkbox"/>
F-3	<input type="checkbox"/>	<input type="checkbox"/>
G. COOLING SYSTEM		
G-1	<input type="checkbox"/>	<input type="checkbox"/>
G-2	<input type="checkbox"/>	<input type="checkbox"/>
G-3	<input type="checkbox"/>	<input type="checkbox"/>
G-4	<input type="checkbox"/>	<input type="checkbox"/>
G-5	<input type="checkbox"/>	<input type="checkbox"/>
G-6	<input type="checkbox"/>	<input type="checkbox"/>
G-7	<input type="checkbox"/>	<input type="checkbox"/>
H. EXHAUST SYSTEM		
H-1	<input type="checkbox"/>	<input type="checkbox"/>
H-2	<input type="checkbox"/>	<input type="checkbox"/>
H-3	<input type="checkbox"/>	<input type="checkbox"/>
H-4	<input type="checkbox"/>	<input type="checkbox"/>
I. AIR CLEANER		
I-1	<input type="checkbox"/>	<input type="checkbox"/>
I-2	<input type="checkbox"/>	<input type="checkbox"/>
J. DRIVE TRAIN		
J-1	<input type="checkbox"/>	<input type="checkbox"/>
J-2	<input type="checkbox"/>	<input type="checkbox"/>
J-3	<input type="checkbox"/>	<input type="checkbox"/>
J-4	<input type="checkbox"/>	<input type="checkbox"/>
K. STEERING		
K-1	<input type="checkbox"/>	<input type="checkbox"/>
K-2	<input type="checkbox"/>	<input type="checkbox"/>

LFD Apparatus Specs

ITEM

COMPLIANCE

YES

NO

L TIRES & WHEELS

L-1

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L-2

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M. ELECTRICAL SYSTEM

M-1

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N. LIGHTING

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LFD Apparatus Specs

ITEM	COMPLIANCE	
	YES	NO
O. WMP		
O-1	<input type="checkbox"/>	<input type="checkbox"/>
O-2	<input type="checkbox"/>	<input type="checkbox"/>
O-3	<input type="checkbox"/>	<input type="checkbox"/>
O-4	<input type="checkbox"/>	<input type="checkbox"/>
O-5	<input type="checkbox"/>	<input type="checkbox"/>
O-6	<input type="checkbox"/>	<input type="checkbox"/>
O-7	<input type="checkbox"/>	<input type="checkbox"/>
P. VALVES AND PLUMBING		
P-1	<input type="checkbox"/>	<input type="checkbox"/>
P-2	<input type="checkbox"/>	<input type="checkbox"/>
P-3	<input type="checkbox"/>	<input type="checkbox"/>
P-4	<input type="checkbox"/>	<input type="checkbox"/>
P-5	<input type="checkbox"/>	<input type="checkbox"/>
P-6	<input type="checkbox"/>	<input type="checkbox"/>
P-7	<input type="checkbox"/>	<input type="checkbox"/>
P-8	<input type="checkbox"/>	<input type="checkbox"/>
P-9	<input type="checkbox"/>	<input type="checkbox"/>
P-10	<input type="checkbox"/>	<input type="checkbox"/>
P-11	<input type="checkbox"/>	<input type="checkbox"/>
Q. PUMP OPERATORS PANEL		
Q-1	<input type="checkbox"/>	<input type="checkbox"/>
Q-2	<input type="checkbox"/>	<input type="checkbox"/>
Q-3	<input type="checkbox"/>	<input type="checkbox"/>
Q-4	<input type="checkbox"/>	<input type="checkbox"/>
R. TANK		
R-1	<input type="checkbox"/>	<input type="checkbox"/>
R-2	<input type="checkbox"/>	<input type="checkbox"/>
R-3	<input type="checkbox"/>	<input type="checkbox"/>
R-4	<input type="checkbox"/>	<input type="checkbox"/>
R-5	<input type="checkbox"/>	<input type="checkbox"/>
R-7	<input type="checkbox"/>	<input type="checkbox"/>
R-10	<input type="checkbox"/>	<input type="checkbox"/>
R-11	<input type="checkbox"/>	<input type="checkbox"/>
R-12	<input type="checkbox"/>	<input type="checkbox"/>

LFD Apparatus Specs

ITEM	COMPLIANCE	
	YES	NO
S. APPARATUS BODY CONSTRUCTION		
S-1	<input type="checkbox"/>	<input type="checkbox"/>
s-2	<input type="checkbox"/>	<input type="checkbox"/>
s-3	<input type="checkbox"/>	<input type="checkbox"/>
s-4	<input type="checkbox"/>	<input type="checkbox"/>
s-5	<input type="checkbox"/>	<input type="checkbox"/>
S-6	<input type="checkbox"/>	<input type="checkbox"/>
s-7	<input type="checkbox"/>	<input type="checkbox"/>
S-8	<input type="checkbox"/>	<input type="checkbox"/>
s-9	<input type="checkbox"/>	<input type="checkbox"/>
s-10	<input type="checkbox"/>	<input type="checkbox"/>
S-11	<input type="checkbox"/>	<input type="checkbox"/>
s-12	<input type="checkbox"/>	<input type="checkbox"/>
T. COMPARTMENTS		
T-1	<input type="checkbox"/>	<input type="checkbox"/>
T-2	<input type="checkbox"/>	<input type="checkbox"/>
T-3	<input type="checkbox"/>	<input type="checkbox"/>
T-4	<input type="checkbox"/>	<input type="checkbox"/>
T-5	<input type="checkbox"/>	<input type="checkbox"/>
T-6	<input type="checkbox"/>	<input type="checkbox"/>
T-7	<input type="checkbox"/>	<input type="checkbox"/>
T-8	<input type="checkbox"/>	<input type="checkbox"/>
T-9	<input type="checkbox"/>	<input type="checkbox"/>
T-10	<input type="checkbox"/>	<input type="checkbox"/>
T-11	<input type="checkbox"/>	<input type="checkbox"/>
T-12	<input type="checkbox"/>	<input type="checkbox"/>
T-13	<input type="checkbox"/>	<input type="checkbox"/>
T-14	<input type="checkbox"/>	<input type="checkbox"/>
T-15	<input type="checkbox"/>	<input type="checkbox"/>
U. HANDRAILS		
U-1	<input type="checkbox"/>	<input type="checkbox"/>

LFD Apparatus Specs

ITEM	COMPLIANCE	
	YES	NO
V. HOSE BED		
V-1	<input type="checkbox"/>	<input type="checkbox"/>
v-2	<input type="checkbox"/>	<input type="checkbox"/>
v-3	<input type="checkbox"/>	<input type="checkbox"/>
v-4	<input type="checkbox"/>	<input type="checkbox"/>
v-5	<input type="checkbox"/>	<input type="checkbox"/>
V-6	<input type="checkbox"/>	<input type="checkbox"/>
v-7	<input type="checkbox"/>	<input type="checkbox"/>
V-8	<input type="checkbox"/>	<input type="checkbox"/>
W. AUDIBLE WARNING DEVICES		
W-1	<input type="checkbox"/>	<input type="checkbox"/>
w-2	<input type="checkbox"/>	<input type="checkbox"/>
w-3	<input type="checkbox"/>	<input type="checkbox"/>
w-4	<input type="checkbox"/>	<input type="checkbox"/>
X. FUEL SYSTEM		
X-1	<input type="checkbox"/>	<input type="checkbox"/>
X-2	<input type="checkbox"/>	<input type="checkbox"/>
X-3	<input type="checkbox"/>	<input type="checkbox"/>
X-4	<input type="checkbox"/>	<input type="checkbox"/>
Y. MISCELLANEOUS		
Y-1	<input type="checkbox"/>	<input type="checkbox"/>
Y-2	<input type="checkbox"/>	<input type="checkbox"/>
Y-3	<input type="checkbox"/>	<input type="checkbox"/>
Y-4	<input type="checkbox"/>	<input type="checkbox"/>
Y-5	<input type="checkbox"/>	<input type="checkbox"/>
Y-6	<input type="checkbox"/>	<input type="checkbox"/>
v-7	<input type="checkbox"/>	<input type="checkbox"/>
Z. PAINT		
Z-1	<input type="checkbox"/>	<input type="checkbox"/>
Z-2	<input type="checkbox"/>	<input type="checkbox"/>
Z-3	<input type="checkbox"/>	<input type="checkbox"/>
2-4	<input type="checkbox"/>	<input type="checkbox"/>